Mailman School of Public Health – Columbia University
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Community Health Advisory & Information Network

Fact Sheet #2

Who Needs Food & Nutrition Services and Where Do They Go for Help?

Food insecurity refers to lack of access to enough food for an active and healthy life due to physical, social or financial constraints. Food security and good nutrition are crucial for the management of HIV infection. Persons living with HIV/AIDS (PLWHA) have a higher demand for dietary quality in terms of energy, protein, and individual nutrients. Proper nutrition is needed to increase absorption of medication, reduce side effects, and maintain healthy body weight. Several conditions associated with HIV/AIDS can be managed with proper nutrition. Good nutrition reduces the risk for and helps manage other chronic diseases such as heart disease, diabetes, and cancer. Food insecurity is a source of chronic stress that has consequences for immunological functioning, as well as for mental health and for adherence to medical treatments.

This Fact Sheet is the second in a series of studies of food and nutrition service needs, use of food and nutrition services, and outcomes associated with food insecurity among representative samples of adults living with HIV in New York City and the northern suburban region of Westchester, Putnam, and Rockland counties.

Food insecurity is associated with poor outcomes for PLWHA

Analyses of the CHAIN data show that PLWHA who are food insecure report more missed appointments for HIV primary care and more emergency room visits compared to those who do not report difficulties obtaining enough and appropriate food. The food insecure are less likely to be receiving medical care that meets minimum clinical practice standards with regard to number of recommended visits, tests and procedures to monitor HIV disease, and antiretroviral medication therapies as indicated.[2]

The food insecure are significantly less likely to have an undetectable viral load, or good physical health functioning, controlling for a range of demographic and economic variables, mental health and substance abuse co-morbidities, competing needs for housing and/or transportation services, receipt of case management services, receipt of medical care, and use of a HAART antiretroviral medication regimen.[3]

Food insecurity remains widespread

Using standard measures of food insecurity, more than two of every five (42%) study participants in both NYC and Tri-County currently experience food insecurity. They report not having enough money for food that they or their family need, describe their food situation as sometimes or more often not having enough to eat, answer that they have gone a whole day without anything at all to eat in the past 30 days, or report a continuing need for assistance regarding food, groceries or meals (Table 1).

Over 80% of the NYC continuing cohort has been food insecure at one or more times during a 6-year study period. More than half have been food insecure at more than one assessment, conducted approximately yearly. The modal pattern appears to be multiple episodes of food insecurity prior to resolution of need for food or meal assistance. However, substantial numbers cycle between episodes of security and insecurity.

METHODOLOGY

- Data for analysis were provided by an ongoing study of persons living with HIV/AIDS in the New York City area, the Community Health & Information Network (CHAIN) Project.
- The sample was designed to be broadly representative of the HIV-positive population who are receiving medical and/or social services in either New York City or in the northern Tri-County suburban area.[1]
- This report is based on data from over 1000 HIV-positive adults who were interviewed in 2008-2010.
- Study participants answered a series of questions about their food and nutrition experiences, need for services and use of services
- Need for food and nutrition services was determined using a composite measure that took into account "objective" criteria based upon indicators of food insecurity (not having enough money for food, going an entire day without eating anything at all, etc.) as well as self-reported need for services. The use of any food or meal services and/or food insecurity was taken as evidence of need for services.

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Table 1. Indicators of Food Insecurity among PLWHA[1]

	NYC	Tri-Co
Total Sample (n=)	*(702)*	*(396)*
Not enough money for food	26%	33%
At least sometimes not enough to eat	11%	11%
Didn't have anything to eat for a whole day	13%	12%
Self-report problems or need for services regarding food, groceries, or meals	11%	12%
Any indicator of food insecurity • Not enough money for food • At least sometimes not enough to eat • Didn't have anything to eat for a whole day OR • Report problems or need for services regarding food, groceries or meals	42%	43%

1. New York City and Tri-County study participants interviewed in 2008-2010

PLWHA rely upon food programs to meet their basic needs

Seventy-nine percent (79%) of cohort members in NYC but only 63% in Tri-County participate in SNAP, the Supplemental Nutrition Assistance Program commonly known as the food stamp program. More than half of PLWHA interviewed in NYC (55%) and in the Tri-County region (58%) receive services from a food/nutrition program in the form of (1) meals provided in a group setting, (2) prepared meals delivered to the home, (3) a food voucher or a grocery bag from a food pantry, or (4) some other help with food or meals. Tri-County residents are more likely to receive food pantry bags than participate in a meal program; the reverse is true for NYC study participants, who are more likely to use meal programs (Figure 1).

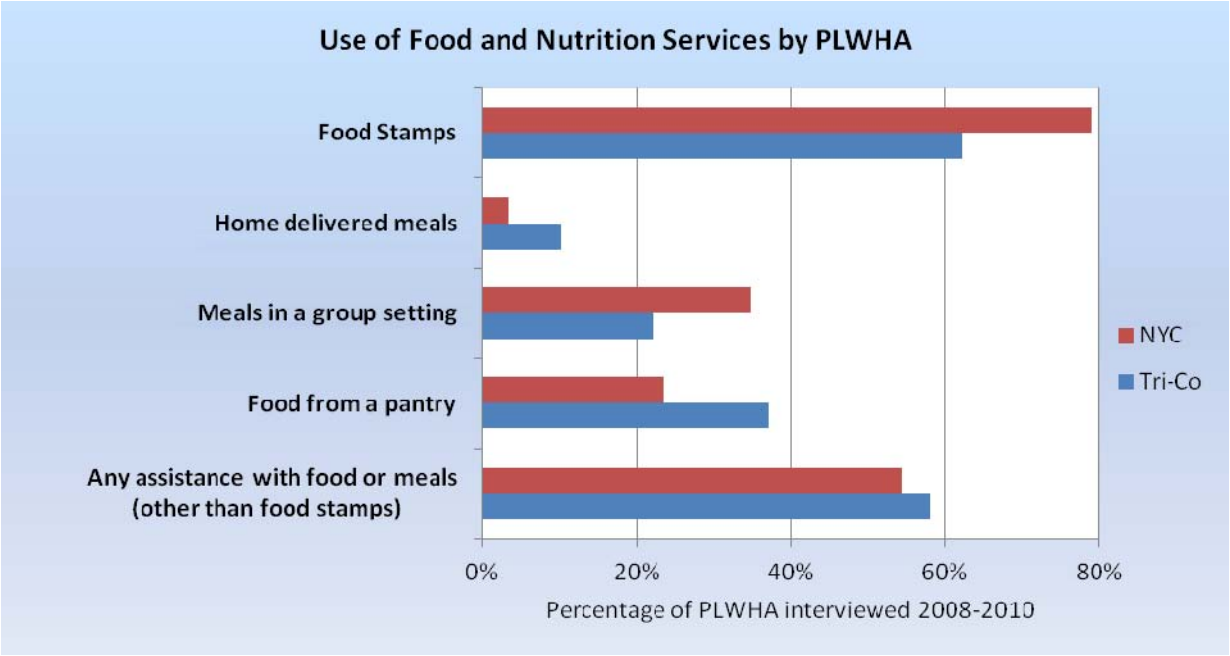
Nutritional counseling is needed

There are multiple indicators of need for nutritional counseling among PLWHA in the sample. Nutritional counseling may be medically indicated based on being underweight or overweight according to BMI, being pregnant, and/or having a diet-sensitive health condition such as hypertension, heart problems, diabetes, high cholesterol, kidney disease, wasting syndrome, or severe diarrhea. Poor dietary practices (e.g., lack of fresh fruits and vegetables) and poor understanding of role of nutrition for the health of persons living with HIV also indicate need for nutritional education and counseling. Using these indicators, the vast majority of both NYC and the Tri-County residents demonstrate a need for nutritional counseling (Table 2). However half have never received such counseling since becoming diagnosed with HIV; only one-third have received nutritional counseling within the past six months, most often in the form of group presentations.[4]

Most use services from general community providers

The agency or program providing food or nutrition services was classified according to whether it was a Ryan White (RW)-funded program located at a social service or medical provider, a non-RW-funded program or service located at a medical center, or a general community-based food assistance program, typically a general social service agency or church/faith based organization. Most study participants in NYC who used food services received assistance from general community-based providers (57%); another 28% were served by a RW-funded program, and the remainder, 15%, received food or nutrition services in a medical setting. Study participants in Tri-County were more likely than those in NYC to get food assistance from a RW provider (45%). However, general-community programs and churches were used most often (50%) in Tri-County as well.

Figure 1: Past Six-Month Use of Food and Nutrition Services by Persons Living with HIV/AIDS



Food insecurity remains widespread

For many persons, accessing food and nutrition services does not eliminate their food insecurity. Few food programs provide all meals. Clients report barriers to receiving the full benefit of available assistance including reduction in service locations or hours of operation, or living arrangements which lack facilities to store or cook food. More than two of five study participants (43% of PLWHA in NYC and 45% in Tri-County) who are receiving food program services still score as food insecure on the standardized measure.

Predictors of food insecurity among PLWHA

Food insecurity and need for food assistance is widespread across all population subgroups among study participants.[5] The odds of food insecurity are lower among older PLWHA and higher among heterosexual men compared to women or MSM in the study. Persons with low mental health functioning and to a lesser extent, active drug users, are more likely to be food insecure. However, mental health needs and problem drug use are not significant predictors when controlling for other individual, clinical, and service need characteristics (Table 3). Food insecurity is most strongly associated with need for transportation and housing assistance, suggesting PLWHA who are food insecure experience multiple forms of hardship and an inability to meet basic subsistence needs, which other research has shown is associated with poor medical care and health outcomes.[6]

Receipt of food or nutrition services is associated with food insecurity. This finding is consistent with other study results showing that food assistance programs are used by persons who are food insecure and food and nutrition needs are not necessarily eliminated by accessing available services. In a separate, over-time analysis, we found that receipt of effective food and nutrition services – services that resolve food insecurity – is associated with improved outcomes. A companion report will investigate further the challenge of meeting increased needs for medically appropriate food and nutrition services for persons living with HIV/AIDS.

Conclusions

Food insecurity is widespread among adults living with HIV and while rates of enrollment in the SNAP program and use of food and meal services is relatively high, available food and nutrition resources do not appear to be sufficient to address the need for assistance. Further, many PLWHA utilize local, voluntary food and meal programs, that are less likely to provide meals and food tailored to the needs of persons living with HIV, or to provide HIV-informed nutritional counseling, which is needed especially among the growing numbers of HIV-positive persons with multiple chronic conditions. Given the current economic situation and increased challenges faced by providers to secure funding for food, nutrition, and appropriate supportive services, unmet need for these services is expected to grow.[7] Not only CHAIN but other research has provided strong evidence that food insecurity and poor nutrition impede access to HIV treatment and care and is associated with worse clinical outcomes for PLWHA.[3,8] Appropriate and effective services can make a substantial difference, improving treatment effectiveness for individuals as well as advancing 'treatment as prevention' goals at the community level.

Table 2. Indicators of Need for Nutritional Counseling among PLWHA[1]

	NYC	Tri-Co
(n=)	*(702)*	*(486)*
Fruit/ vegetable consumption per day < 5 servings[1] NYC Tri-Co < 1 48% 37% 1-2 42 50 3-4 8 13 5+ 2 0	**98%**	**100%**
Nutrition knowledge among PLWHA[1] One or more questions answered incorrectly	**50%**	**43%**
Nutrition-sensitive illness hypertension, CVD, heart problems, high cholesterol, kidney disease, wasting syndrome, diarrhea for a month or more	**75%**	**69%***
Medically indicated need for nutritional counseling Nutrition-sensitive Illness OR BMI >25.0 OR BMI <18.5 OR Pregnant	**89%**	**87%**

1. Preliminary data: n=509 NYC, N=155 Tri-Co

Table 3. Predictors of Food Insecurity among PLWHA

	OR	AOR
SOCIODEMOGRAPHICS		
Older Age[1]	0.99	0.98*
Male	1.77***	2.13*
Black[2]	0.87	0.91
Latino[2]	0.99	0.90
Less than HS education	1.10	1.06
Income below poverty line	0.99	0.88
RISK EXPOSURE GROUP[3]		
MSM	1.05	0.59*
IDU	1.10	0.96
CO-MORBIDITIES		
Physical health co-morbidity	0.95	1.02
Low mental health functioning	1.43**	1.27
Used drugs past six months	1.39*	1.25
SUPPORTIVE SERVICE NEEDS		
Need housing assistance	2.14***	1.83*
Need transportation help	3.47***	3.10*
SERVICES RECEIVED		
HIV medical care meets practice standards	0.78	0.86
Medical case management	1.40**	1.17
Social services case management	1.52**	1.15
Food/ Nutrition services	1.77***	1.59*
AREA OF RESIDENCE		
Tri-County Region[4]	1.02	1.04

Logistic regression showing increase or decrease in odds of food insecurity; Adjusted Odds Ratios (AOR) show relationship between individual or service characteristics and food insecurity, controlling for all other variables in the model.

[1] Continuous variable [2] Reference category White Non-Hispanic /Other
[3] Reference Heterosexual/ Other [4] Compared to New York City

* p <.05 ** p<.01 ***p<.001

Other resources:

1. For description of the CHAIN program of research see Health and Human Services Planning Council of New York website: http://www.nyhiv.com/data_chain.html

2. Aidala A, Yomogida M, and the HIV Food & Nutrition Study Team (2011). HIV/AIDS, Food & Nutrition Service Needs and Health Outcomes. Community Health Advisory Fact Sheet 1. New York Health & Human Services Planning Council.http://www.nyhiv.com/pdfs/chain/Food%20Need%20Medical%20Care_factsheet%20v8.pdf

3. Aidala A A, et al. (2012). Food Insecurity, Medical Care, and Health Outcomes among PLWH in a High Resource Setting: The Importance of Food and Nutrition Services. Poster presented at the XIX International AIDS Conference Washington DC http://pag.aids2012.org/EPosterHandler.axd?aid=20339

4. Yomogida M et al. (2011). Service Needs and Utilization New York City: 2009-2011. Community Health Advisory Report 20011-1a. New York Health & Human Services Planning Council.http://www.nyhiv.org/pdfs/chain/CHAIN%2020111a%20Service_Needs_and_Utilization_Report_NYC.pdf

5. Messeri, P & Berk, S (2009). Demographics of Food Program Users. Community Health Advisory Report 2009-1. New York Health & Human Services Planning Council. http://www.nyhiv.com/pdfs/chain/CHAIN%2020091%20Brief%20Report_Demographics%20of%20Food%20Program%20Users.pdf

6. McMahon J. et al. (2011). Poverty, Hunger, Education, and Residential Status Impact Survival in HIV. *AIDS & Behavior* 15(7): 1503–1511.

7. Pearl, Karen (2012). The Food As Medicine Advocacy Initiative: Using New Research to Secure Public Funding for Food and Nutrition Services for PLWHA. Poster presented at the meetings of the American Public Health Association San Francisco, CA. https://apha.confex.com/apha/140am/webprogram/Paper270968.html

8. Anema A et al. (2009). Food Insecurity and HIV/AIDS: Current Knowledge, Gaps, and Research Priorities. *Current HIV/AIDS Reports* 2009, 6:224–231.

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